
Chapter 1

Introduction

The purpose of the Regional Wastewater Services Plan (RWSP) 2005 Annual Report is to describe King County's progress in implementing the major elements of the RWSP for the year 2005. This report is presented in response to the RWSP reporting policies outlined in Ordinance 15384 and King County Code 28.86.165.¹

Each chapter in this report describes accomplishments achieved in 2005 for major RWSP programs or projects. Chapters 2 through 9 also mention anticipated achievements for 2006. The subject matter of each chapter is as follows:

- Chapter 2 describes the progress made on the Brightwater Treatment System.
- Chapter 3 discusses the activities associated with the conveyance system improvement program and summarizes the progress made on RWSP conveyance projects that are in design and construction.
- Chapter 4 provides an update on the infiltration and inflow (I/I) program and summarizes the Executive's Recommended Regional I/I Program that was adopted by the Metropolitan King County Council in May 2006.
- Chapter 5 summarizes the key achievements of the Combined Sewer Overflow Control Program. It also describes efforts to improve water quality in the Lower Duwamish Waterway and the activities associated with the county's Sediment Management Program.
- Chapter 6 provides details on the progress made on the Vashon Treatment Plant upgrades and the design and environmental review processes for the Carnation Treatment Plant.
- Chapter 7 discusses the efforts carried out in 2005 to meet the RWSP policies to prevent and control nuisance odors at the county's treatment plants and conveyance facilities.
- Chapter 8 describes the activities and achievements of the biosolids program.
- Chapter 9 provides information on reclaimed water and water conservation activities in 2005.
- Chapter 10 provides an update of the RWSP cost estimates through 2030.
- Chapter 11 reports on the Wastewater Treatment Division's water quality management activities in 2005.

¹ Previous RWSP annual reports are available on the Web at <http://dnr.metrokc.gov/wtd/rwsp/library.htm>

The remainder of this chapter provides background information on King County's wastewater treatment system and the RWSP. The last section of the chapter lists the awards and recognitions received in 2005 associated with implementing the RWSP.

1.1 King County's Wastewater Treatment System

King County protects water quality and public health in the central Puget Sound region by providing high quality and effective treatment to wastewater collected from 17 cities and 17 local sewer utilities. The county's Wastewater Treatment Division (WTD) serves about 1.4 million people, including most urban areas of King County and parts of south Snohomish County and northeast Pierce County.

King County's wastewater system (Figure 1-1) includes two large regional treatment plants (the West Point Plant in the City of Seattle and the South Plant in the City of Renton), one small treatment plant on Vashon Island, one community septic system (Beulah Park and Cove on Vashon Island), four combined sewer overflow (CSO) treatment facilities (Alki, Carkeek, Mercer/Elliott West, and Henderson/Norfolk—all in the City of Seattle), over 335 miles of pipes, 19 regulator stations, 42 pump stations, and 38 CSO outfalls. Construction on two new treatment plants will begin in 2006: the Brightwater Treatment Plant, the system's third regional plant, scheduled for completion in 2010, and a smaller local treatment plant in the City of Carnation, scheduled for completion in 2007.

Visit WTD's Web site for more information on projects and programs:

<http://dnr.metrokc.gov/wtd/>

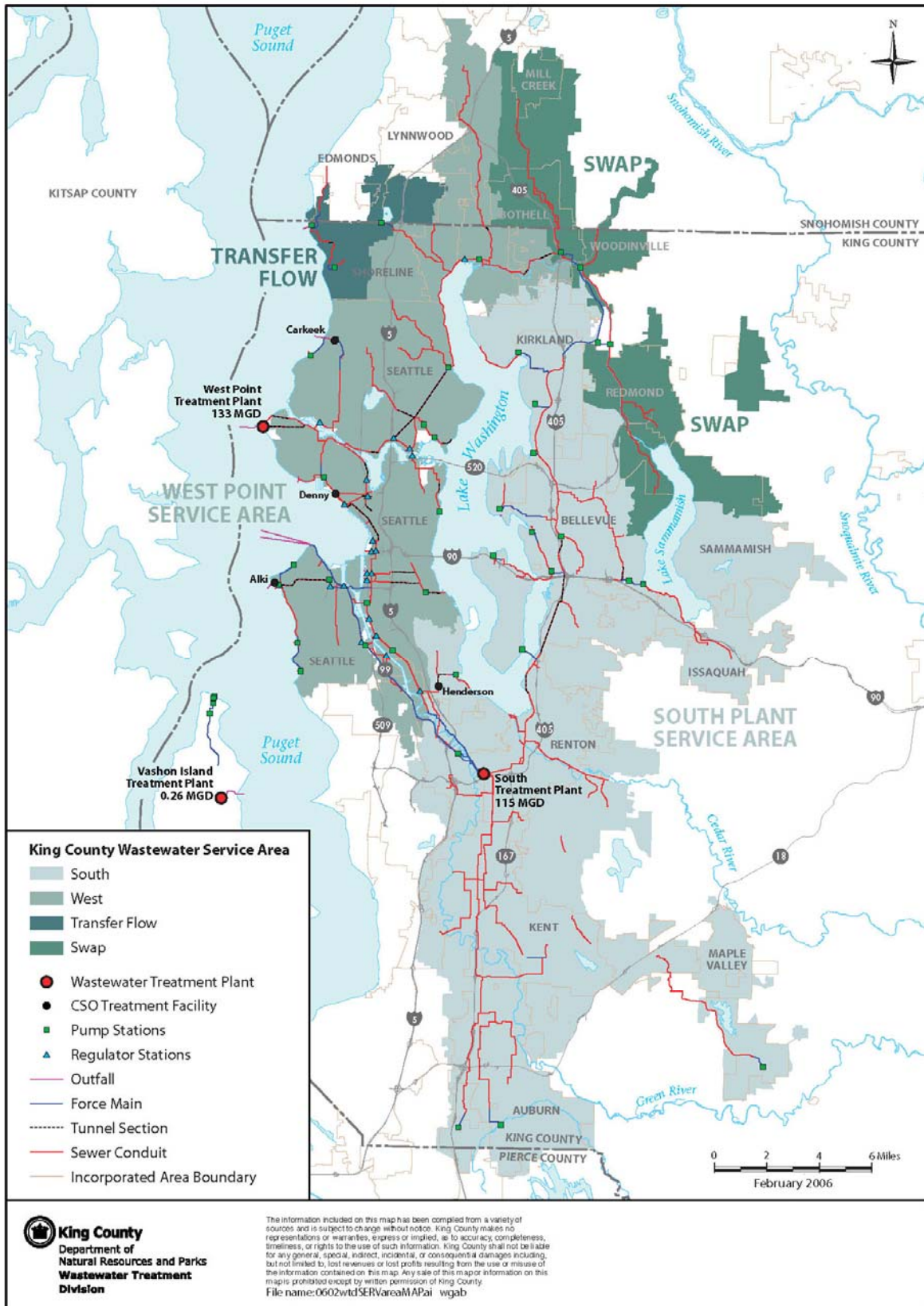


Figure 1-1. King County Wastewater Service Area and Facilities

1.2 Regional Wastewater Services Plan

In the 1990s, flow estimates based on projected population growth estimates in King County's wastewater service area indicated that King County's regional wastewater treatment system would run out of capacity by 2010. To ensure the continuation of high quality and effective wastewater treatment services in the future, the county carried out an intensive planning effort, involving numerous elected officials, representatives from local sewer agencies, organizations, and individuals from around the region. The RWSP resulted from this effort and was adopted by the Metropolitan King County Council in November 1999, via Ordinance 13680.

The RWSP outlines a number of important projects, programs, and policies for King County to implement through 2030. The RWSP calls for building a new treatment plant, now known as "Brightwater," to accommodate growth in the northern portion of the wastewater service area. The plan also calls for improvements to our conveyance system to meet the 20-year design storm standard and accommodate increased flows; improvements to reduce existing and future levels of infiltration and inflow (clean groundwater and stormwater) into local collection systems; and improvements to control CSOs so that an average of no more than one untreated discharge occurs per year at each CSO site by 2030.²

The RWSP also identifies the need to expand the South Plant in Renton by 2029 to handle projected increased wastewater flows in the southern and eastern portions of the county's wastewater service area.

Ordinance 13680 was codified in the

RWSP Annual Report Reporting Policies

The policies below were established via adoption of Ordinance 15384. They guide the preparation of the RWSP annual reports.

"A. Regional wastewater services plan annual report. The executive shall submit a written report to the council and RWQC in September each year until the facilities in the RWSP are operational. This report, covering the previous year's implementation, will provide the following:

- 1. A summary of activities for each major component of the RWSP, including treatment, conveyance, infiltration and inflow, combined sewer overflows, water reuse, biosolids and highlights of research and development projects underway and proposed for the coming year;*
- 2. Details on each active RWSP project in the capital budget, including a project summary, project highlights, project issues, upcoming activities, schedules, and expenditures summary including labor staff and miscellaneous services, a description of adjustments to costs and schedule and a status of the projects contract;*
- 3. A status of the odor prevention program, including a listing and summary of odor complaints received and progress on implementing odor prevention policies and projects;*
- 4. A summary of the previous year's results for the comprehensive water quality monitoring program;*
- 5. A review of the plan elements, including water pollution abatement, water quality, water reclamation, Endangered Species Act compliance, biosolids management and variability of quality over time, wastewater public health problems, compliance with other agency regulations and agreements, to ensure it reflects current conditions; and*
- 6. An update of anticipated RWSP costs through the year 2030."*

² The Washington State Department of Ecology (Ecology) regulates the level of CSO control based on the number of untreated CSO events that occur in a year. Ecology defines "the greatest reasonable reduction" in CSOs (RCW 90.48) as being "control of each CSO in such a way that an average of one untreated discharge may occur per year" (WAC 173-245-020).

King County Code as Chapter 28.86. Amendments to Ordinance 13680 and the King County Code Chapter 28.86 have been made since the RWSP's adoption. Amendments have included updates to the financial policies, new odor control policies for the county's existing regional treatment plants and facilities, and a new section on reporting policies.

Visit the RWSP Web site for more information on this regional plan:

<http://dnr.metrokc.gov/wtd/rwsp/rwsp.htm>

The entire contents of the RWSP 2005 Annual Report is available on the Web at:

<http://dnr.metrokc.gov/wtd/rwsp/library.htm>

1.3 2005 Awards and Recognition

WTD, a division within King County's Department of Natural Resources and Parks, received several awards and recognitions in 2005 associated with implementing the RWSP. The awards and recognitions are as follows.

- The American Society of Landscape Architects awarded the *National Honor Award in Analysis and Planning* to the Brightwater Project for the development and implementation of the site selection process.
- The Puget Sound Region International Right of Way Association awarded the *Project of the Year Award* to WTD's Right of Way and Permitting team for excellence, innovation, and timeliness in the acquisition of 114 acres of industrial land for the Brightwater Treatment Plant site, successful relocation of seventeen commercial and residential tenants, regulatory compliance, and coordination with other state and local agencies. (awarded in 2005 for the year 2004).
- enterpriseSeattle presented the *2005 Public Sector Economic Development Champion Award* to King County Executive Ron Sims in recognition of his leadership role in moving the Brightwater project forward.
- The National Association of Clean Water Agencies (NACWA) awarded both the West Point and South plants the *Gold Award* for peak performance for their NPDES (National Pollutant Discharge Elimination System) compliance and for incurring no permit violations over the preceding year.
- NACWA awarded the *Excellence in Leadership Award* to WTD's management team for incorporating modern and up-to-date utility management leadership practices in their work.
- NACWA recognized WTD's Fuel Cell Demonstration Project with its *Research and Technology Award* for development of technological innovations that have a practical application in wastewater treatment.